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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,221	12/06/2001	Charles Milan Patton	SRI-014	1113

7590 11/18/2004  
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EXAMINER
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WANG, QUAN ZHEN

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/021,221	PATTON, CHARLES MILAN	
	Examiner	Art Unit	
	Quan-Zhen Wang	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 14, 18, 23, 25, 1-2, 11-12, 26, 30, 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen (U.S. Patent US 4,977,618).

Regarding claims 14, 1-2, and 26, Allen teaches a data communication system of free-space electromagnetic pathways (fig. 2, 22 and 26) for facilitating wireless networking of a plurality computing devices (column 3, lines 66-68 and column 4, lines 1-4), each computing device (fig. 3, 52) having a transceiver (fig. 3, 50) for beamed line-of-sight, electromagnetic communication, the communication channel comprising: a first location (fig. 2, 11) at which one of the plurality of computing devices is used; a second location (fig. 2, 15) at which another of the plurality of computing devices is used; and a reflective surface (fig. 2, 24) purposely disposed adjacent the first and second locations such that a beamed communication transmitted from the first location (fig. 2, 22) is reflected in a direction towards the second location (fig. 2, 26).

Regarding claims 18, 11, and 30, Allen further teaches that the reflection surface (fig. 2, 24) is a diffuse reflection surface that reflects the transmitted light in all directions (column 3, lines 34-37).

Regarding claim 23 and 34, Allen further teaches that the communication is infrared communication (column 3, lines 33-37).

Regarding claims 25, 12, and 35, Allen further teaches that the communication system coupled to personal computers (fig. 3, 52; column 3, line 68 and column 4, line

1). A personal computer is a personal digital assistant.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15, 3-4, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent US 4,977,618).

Regarding claims 15, 3-4, and 27, Allen teaches a system of free-space electromagnetic pathways for facilitating wireless networking of a plurality computing devices (column 4, line 1), each computing device having a transceiver (fig. 3) for beamed line-of-sight, electromagnetic communication, the communication channel comprising: a first location (fig. 2, 11) at which one of the plurality of computing devices is used; a second location (fig. 2, 15) at which another of the plurality of computing devices is used; and a reflective surface (fig. 2, 24) purposely disposed adjacent the first and second locations such that a beamed communication transmitted from the first

location (fig. 2, 22) is reflected in a direction towards the second location (fig. 2, 26).

Allen differs from the claimed invention in that Allen does not specifically teach that the system further comprising a third location at which another of the plurality of computing devices is used; and a reflective surface purposely disposed adjacent the second and third locations such that the beamed communication received at and re-transmitted from the second location is reflected in a direction towards the third location. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the system a third location at which another of the plurality of computing devices is used; and a reflective surface purposely disposed adjacent the second and third locations such that the beamed communication received at and re-transmitted from the second location is reflected in a direction towards the third location since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

4. Claims 16, 6, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent US 4,977,618) and in view of Arthurs et al. (U.S. Patent US 4,896,934).

Regarding claims 16, 6, and 28, Allen further teaches that the data communication system (fig. 2) having an input (fig. 2, 10) to receive an electronic signal representing information or data and having a transmitter to transmit the data (column 3, lines 13-24). Allen differs from the claimed invention in that Allen does not specifically teach to use multicast packet. However, Arthurs teaches to use multicast

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packet in optical communication systems (column 3, lines 27-36). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to use multicast packet as it is taught by Arthurs in the data communication system taught by Allen in order to send information from one or more points to a set of other points.

5. Claims 17, 7, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent US 4,977,618) and in view of Hubner et al.

(Telecommunications, 1991. Third IEE Conference on , 17-20 Mar 1991 Pages:204 – 207)

Regarding claims 17, 7, and 29, Allen further teaches that the data communication system (fig. 2) having an input (fig. 2, 10) to receive an electronic signal representing information or data and having a transmitter to transmit the data (column 3, lines 13-24). Allen further teaches that the data communication system can be used for a local area network (column 5, lines 20-23) and can be incorporated or be incorporated into a conventional hard wired network (column 4, lines 50-53). Allen differs from the claimed invention in that Allen does not specifically teach to use multi-hop protocol. However, Hubner teaches a multihop protocol for optical communications. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to utilize the multihop protocol taught by Hubner in the data communication system taught by Allen in order to communicate with contact points which are out of transmission range.

6. Claims 19-21, 5, 8-10, and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent US 4,977,618) and in view of Yamaguchi (U.S. Patent US 6,569,522 B2) or Aman et al. (U.S. Patent US 6,567,116 B1).

Regarding claims 19-21, 5, 8-10, and 31-33, Allen differs from the claimed invention in that Allen does not specifically teach to make the reflective surface by conforming a reflective surface to a curvature of a surface of an object to which the reflective surface is Attached; the reflective surface is shaped to produce a predefined curvature on a surface of an object to which the reflective surface is attached; the predefined curvature of the reflector is arcuate. However, Yamaguchi teaches to create a reflective surface by attaching a reflective sticker to a desired object (fig. 7C, column 6, lines 66-67 and column 7, lines 1-2); the reflective surface is shaped to the curvature of a surface of an object to which the reflective surface is attached. Aman teaches to create a reflective surface by applying a reflective sticker on a curvature surface (fig. 2C; column 11, lines 58-61). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to create all kinds of reflective surfaces, including an arcuate reflector, using the technique taught by Yamaguchi or Aman for the communication system taught by Allen in order to create reflective surfaces on objects with curvature surfaces. Further more, it would have been obvious to a person of ordinary skill in the art to provide the reflective surface of Allen in a curvature shape that can be attached to an object.

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7. Claims 22, 13, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent US 4,977,618) and in view of Burns et al. (U.S. Patent US 6,064,502).

Regarding claims 22, 13, and 36, Allen differs from the claimed invention in that Allen does not specifically teach the object is a chair. However, Burns teaches a wireless infrared communication system for a single interior location wherein the communication beam is reflected by objects placed in the location (fig. 3, 48), including chairs (column 1, lines 42-44). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to use objects placed in the area to reflect the communication beam, as it is taught by Burns, for the communication system taught by Allen in order to provide local infrared wireless data communication system that does not require direct line-of-sight transmission.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent US 4,977,618) and in view of Knapp (U.S. Patent US 4,975,926).

Regarding claim 24, Allen differs from the claimed invention in Allen does not specifically teach to use microwaves for the communication beam. However, Knapp teaches to use microwave or radio frequency to replace the infrared light for a wireless indoor communication system (column 14, lines 33-37). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to use microwaves as it is taught by Knapp to replace the infrared light in the

communication system taught by Allen in order to have alternatives for provide systems for avoiding multi-paths.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grunwald (U.S. Patent US 4,229,829) discloses an apparatus for wireless transmission of a teaching program in a classroom; Kawai (U.S. Patent US 5,818,616) discloses an optical communication apparatus and conference system; Tamura et al. (U.S. Patent US 4,358,858) discloses an optical information exchange system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 8:30 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw

*M. R. Sedighian*  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**